

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB2004/052284

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7<sup>1</sup> H01L29/78 H01L29/739 H01L29/41

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|------------|--|-----------------------|
| X          | DE 100 07 415 A1 (INFINEON TECHNOLOGIES AG) 6 September 2001 (2001-09-06)  | 1,3-9                 |
| Y          | page 3, line 39 - page 4, line 23; figure 1  | 2                     |
| Y          | -----<br>PATENT ABSTRACTS OF JAPAN<br>vol. 009, no. 159 (E-326),<br>4 July 1985 (1985-07-04)<br>& JP 60 038877 A (HITACHI LTD),<br>28 February 1985 (1985-02-28) | 2                     |
| A          | abstract; figure 4   | 1,3,5,6               |
| X          | -----<br>WO 97/35346 A (SIEMENS AKTIENGESELLSCHAFT ET AL) 25 September 1997 (1997-09-25)<br>page 3, line 34 - page 5, line 15; figures 1,2<br>-----<br>-/--      | 1,3,5-8               |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the International filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the International filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search

14 June 2005

Date of mailing of the International search report

28/06/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Morvan, D

## INTERNATIONAL SEARCH REPORT

Inter. Application No  
PCT/IB2004/052284

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|---|-----------------------|
| X          | JP 2003 298052 A (TOSHIBA CORP)<br>17 October 2003 (2003-10-17)<br>figure 15  | 1, 3-9                |
| P, X       | -& US 2003/227052 A1 (ONO S)<br>11 December 2003 (2003-12-11)<br>page 4, paragraph 62 - page 5, paragraph<br>74; figures 16-23  | 1, 5, 6               |
| X          | -----<br>PATENT ABSTRACTS OF JAPAN<br>vol. 018, no. 174 (E-1530),<br>24 March 1994 (1994-03-24)<br>& JP 05 343691 A (NIPPONDENSO CO LTD),<br>24 December 1993 (1993-12-24)<br>figure 5<br>----- | 1-4, 6-9              |

## INTERNATIONAL SEARCH REPORT

 International Application No  
 PCT/IB2004/052284

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date  |
|---|---------------------|----------------------------|--|
| DE 10007415                               | A1                  | 06-09-2001                 | NONE   |
| JP 60038877                               | A                   | 28-02-1985                 | NONE   |
| WO 9735346                                | A                   | 25-09-1997                 | DE 19611045 C1 22-05-1997<br>WO 9735346 A1 25-09-1997<br>EP 0888639 A1 07-01-1999<br>US 5973360 A 26-10-1999 |
| JP 2003298052                             | A                   | 17-10-2003                 | CN 1449058 A 15-10-2003<br>US 2003227052 A1 11-12-2003   |
| US 2003227052                             | A1                  | 11-12-2003                 | JP 2003298052 A 17-10-2003<br>CN 1449058 A 15-10-2003  |
| JP 05343691                               | A                   | 24-12-1993                 | NONE   |